MARICOPA COUNTY AIR QUALITY DEPARTMENT
1001 North Central Avenue
Phoenix, Arizona 85004

Draft

GUIDANCE IN APPLYING THE HAP RULE 372

January, 2008

---

1. BACKGROUND & OBJECTIVE

Federal regulation of Hazardous Air Pollutants (HAP) was significantly expanded as part of the 1990 Clean Air Act Amendments (CAAA) and incorporated into Section 112 of the Clean Air Act. Maricopa County Air Quality Department (MCAQD), Rule 372, which mirrors a state rule (see Arizona Revised Statutes (ARS) §49-426.06) under the authority of the Arizona Department of Environmental Quality (ADEQ), like the federal rules, imposes requirements to mitigate toxic risk. This guidance endeavors to illuminate the sequence of considerations in applying Rule 372.

2. APPLICABILITY

Rule 372 applies to new or modified source of Maricopa County hazardous air pollutants as described in Section 102 of the rule. This includes any major source of HAPs or any covered minor source of HAP emissions. A covered source is defined as one of the source categories listed in Table 1-Maricopa County HAPs Minor Source Categories of §102.1.

Exemption:
Section 103 of Rule 372 cites exemptions, the most notable of which includes sources subject to federal New Emission Standards for Hazardous air Pollutants (NESHAP) under 40 CFR Part 61 or 63 (see Rule 372 §103.1). A minor source of HAP that is one of the NESHAP categories may be exempted by voluntarily accepting requirements equivalent to those of a NESHAP that applies to the same industrial category (see §103.2).

3. FURTHER CONSIDERATIONS REGARDING APPLICABILITY

Rule 372, Section 300 (Standards), §303, requires any new or modified *minor source* of HAP subject to the rule to apply HAPRACT as described in Section 304. Similarly, any new or modified *major source* of HAP subject to the rule must apply AZMACT as described in Section 305 (see also Section 200-Definitions of the Rule).

A *modification* is defined at §214 of the Rule as:

- A physical change in, or change in the method of operation of, a source that increases the actual emissions of any Maricopa County hazardous air pollutant (HAP) emitted by the source by more than any de minimis amount listed in Table 2-Maricopa County HAPs De Minimis Levels, or which results in the emission of any HAP not previously emitted by the source by more than any de minimis amount listed in Table 2- Maricopa County HAPs De Minimis Levels.
- A physical change in, or change in the method of operation of, a source that increases the actual emissions of any Maricopa County HAPs emitted by the source, if it results in total source emissions that exceed one ton per year (tpy) of any individual HAP or 2.5 tpy of any combination of HAPs.

Exception: A source otherwise subject to HAPRACT or AZMACT as described above may choose to opt out of the HAPRACT or AZMACT by performing a risk management analysis (RMA) in accordance with Section 306 of the rule. The results of the RMA must demonstrate the absence of adverse effects to human health or the environment. The RMA must make this demonstration for each HAP emitted in quantity equal or greater than the de minimis levels given at Table 2 of the rule, as described at §306.1-e.

4. HAPRACT

Under Section 304 of Rule 372, and in accordance with ARS §480.04-C, a new or modified source subject to the rule that emits or has the potential to emit 1 tpy or more of any single HAP, and/or 2.5 tpy or more of combined HAP (but less than the major source thresholds of 10/25 tpy for any single or combined HAP, respectively) shall apply HAPRACT. Section 304 describes the sequential process of determining HAPRACT.

5. AZMACT

Under Section 305 of Rule 372, and in accordance with ARS §480.04-C, a new or modified source subject to the rule that emits 10 tpy or more of any single HAP, and/or 25 tpy or more of combined HAP shall apply AZMACT. Section 304 describes the sequential process of determining AZMACT. Additionally, Section 305 cites special considerations relating to federal HAP initiatives under 112(g) of the Clean Air Act. The most notable of these is that of §305.6, which prohibits imposition of any AZMACT determination and requirement that is incompatible with federal NESHAP under 40 CFR Part 63.

6. RISK MANAGEMENT ANALYSIS (RMA)

Section 306 of Rule 372 gives an applicant that would otherwise be subject to the rule the option to demonstrate, by performing a RMA, that no adverse risk will result from its HAP emissions. Section 306 takes a tiered approach comprising four (4) tiers. RMA tier 1 is the most basic, while tier 4 is the most refined. The following summarizes these RMA tiers, which begin at §306.2 of the rule:

- Tier 1 – Perform risk equation to estimate maximum concentrations resulting from source emissions according to §306.2-a. of the rule; compare results to the relevant concentrations given in Table 3 of §306.3 or a recognized standard as allowed in Appendix H of the MCAQD Rules.
- Tier 2 – Conduct SCREEN dispersion model according to §306.2-b. and compare results to the relevant concentrations given in Table 3 of §306.3 or a recognized standard as allowed in Appendix H of the MCAQD Rules.
- Tier 3 – Conduct modified SCREEN dispersion model consistent with guidelines specified in Rule 240 and in accordance with §306.2-c.; compare results to the relevant concentrations given in Table 3 of §306.3 or a recognized standard as allowed in Appendix H of the MCAQD Rules.
- Tier 4 – Conduct modified SCREEN or AERMOD dispersion model consistent with guidelines specified in Rule 240 and in accordance with §306.2-d.; compare results to the relevant concentrations given in Table 3 of §306.3 or a recognized standard as allowed in Appendix H of the MCAQD Rules.

7. RMA PERFORMED BY THE DEPARTMENT

The Department reserves the option to perform, at its discretion, a RMA for any source of HAP emissions that it believes may pose a risk. Considerations in determining whether a RMA is warranted include, but may not be limited to, the following:

7.1 Whether the source has an existing permit for which a renewal is pending and is therefore not subject to HAPRACT or AZMACT in accordance with Rule 372 §§303.2 & 303.3.

7.2 Whether the source emits 1 tpy or more of any single HAP and/or 2.5 tpy or more of any combination of HAP (while the source may not be seeking a new permit or modification to an existing permit).

7.3 Whether a modified source under Section 214 of Rule 372 emits HAP at a level that reaches or exceeds any de minimis level given in Table 2 (while the source may not be seeking a new permit or modification to an existing permit).

7.4 Whether the source is one of the 30 source categories listed in EPA's Residual Toxic Risk (RTR) Phase II initiatives under Section 112 of the Clean Air Act. See: http://www.epa.gov/ttn/atw/rrisk/rtrpg.html

7.5 Whether the HAP under consideration is (are) on EPA's National Air Toxics Assessment (NATA) list of 33 pollutants. See: http://www.epa.gov/ttn/atw/nata/34poll.html

8. PERMITTING PROCEDURES:

The intent of this procedure is to evaluate whether hazardous air pollutants, if released in substantial quantities, pose a threat to human health or the environment.

8.1 Determine if any HAP is emitted in excess of the de minimis levels of Table 2 of Rule 372.

8.2 Each HAP with emissions exceeding the de minimis level(s) will be modeled using SCREEN3 (or equivalent consistent with EPA's *Guideline on air Quality Models* at 40 CFR 51, Appendix W) to estimate the maximum ground-level annual and hourly concentrations (comparable to the Tier 2 analysis of §306.2-b. of the Rule). The modeled results should then be compared with the Acute and Chronic Ambient Air Concentrations contained in Table 3 of the Rule. If the applicant has already run SCREEN3, review the results accordingly, including the performance of an independent SCREEN3 model if necessary.

8.3 If any modeled concentration exceeds the levels in Table 3, and the source is a covered minor source of HAP emissions, then the facility is subject to the requirements of Rule 372. If the subject pollutant is not listed in Table 3, a risk standard may be established pursuant to Appendix H of the MCAQD Rules.

8.4 If any modeled concentration exceeds the levels in Table 3 or a standard established pursuant to Appendix H of the MCAQD Rules, and the source is not a covered minor source of HAP emissions, inform the applicant of the results and explain the HAP permitting procedure to them. The facility has the following options available to them:

- Take no further action and make no changes;
- Submit a less conservative air dispersion model such as AERMOD; or
- Propose voluntary permit conditions that reduce the facility's offsite concentrations. The applicant should be informed that voluntary requirements and/or limits will be incorporated into their permit, and that these requirements will be enforced by the Department. Reductions in ambient pollutant concentrations can be accomplished through material substitution, addition of controls, accepting throughput or operational limitations, increasing stack height up to what would be allowed based on Good Engineering Practice, or any other effective method that is enforceable. The applicant can choose to do any combination of these modeling and operational options or choose to do none at all.

8.5 Document the above analysis and the resulting source decisions in the permit file. This would include the following minimum information:

- A copy of any modeling used in the analysis.
- Sample calculations if applicable.
- A section in the engineering notes describing any assumptions made or any unusual circumstances examined in reviewing the application.
- A table in the engineering notes showing the predicted ambient concentrations resulting from source emissions and the relevant Acute and Chronic Ambient Air Concentrations. Document all facilities which exceed the Acute or Chronic Ambient Air Concentrations but which are not covered sources as defined in Table 1-Maricopa County HAPs Minor Source Categories of Rule 372 §102.1 in an e-mail to the Permitting Supervisor.